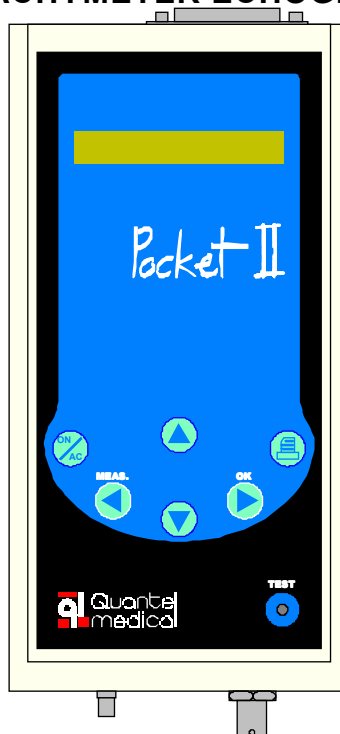


Quantel
medical

Pocket II

PACHYMETER ECHOGRAPH



SERVICE MANUAL

XE PCK2 MT AN



NOVEMBER 2003

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WARNINGS

WARRANTY :

- For safety reasons, QUANTEL MEDICAL considers the instrument CPU Board as whole part.

Defective CPU Board will be returned to QUANTEL MEDICAL as a whole for replacement.

Any faulty component will be replaced by a strictly identical component.

- QUANTEL MEDICAL shall not be liable for any intervention or attempt to repair the "CPU Board" should any incident or breakdown occur.

The guarantee of the equipment will be void if the equipment is opened (even partially), modified or repaired in any way by persons who are not authorised by QUANTEL MEDICAL.

In case of user or equipment problems, call QUANTEL MEDICAL Service department :

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1- TECHNICAL SPECIFICATIONS

1-1 FREQUENCY

- Probe transducteur : 20 MHz
- Programmable Logic device (PLD) Clock: 32 MHz
- Microprocessor Clock : 8 MHz

1-2 ANTI INTERFERENCE

The POCKET-II equipment consumes very low current and cannot generate any significant EMI effect.

The POCKET-II equipment is powered by direct current (DC) voltage.

1-3 POWER SUPPLY

The POCKET-II equipment requires four 1,5V AA batteries in order to operate.

An optional external power supply may be used to replace the batteries.

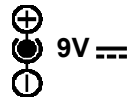
This external power supply can be found in any country with the appropriate regulation. The voltage and current required are 9V DC and 500 mA.



Do not remove the batteries before connecting to the external power supply (in order to safeguard the configuration data) .



external power supply placement

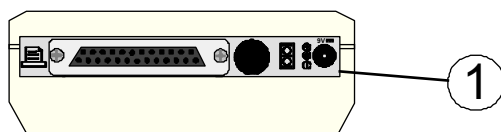


The external power supply connector is positioned on the upper left side of the POCKET-II instrument.

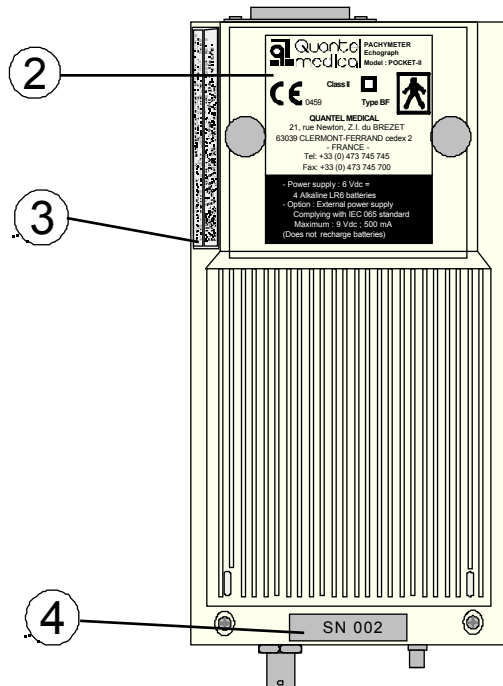
1- TECHNICAL SPECIFICATIONS

1-4 STICKERS

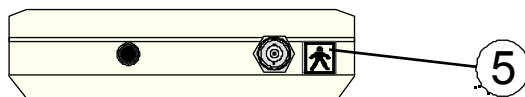
Upper panel



Rear panel

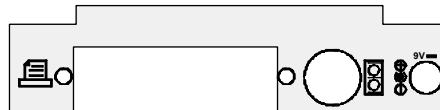


Lower panel



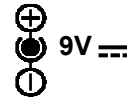
1- TECHNICAL SPECIFICATIONS

1 Plate with serigraphy :



Size : 23 x 93 mm

- external power supply placement



- serial port to PC placement



- parallel port for printer placement



2 Identification sticker :



Size 60 x 50 mm

1- TECHNICAL SPECIFICATIONS

3 Special sticker for USA :

CAUTION : FEDERAL USA LAW RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF A PHYSICIAN OR AN OPTOMETRIST LICENCED BY THE LAW OF THE STATE IN WHICH HE PRACTISES TO USE OR ORDER THE USE OF THIS DEVICE

DANGER: EXPLOSION HAZARD. DO NOT USE IN PRESENCE OF FLAMMABLE ANESTHETICS OR OXIGEN RICH ATMOSPHERE

CAUTION: ELECTRIC SHOCK HAZARD. DO NOT OPEN. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

Size 59 x 15 mm

4 Serial number sticker :

Size : 33 x 12 mm

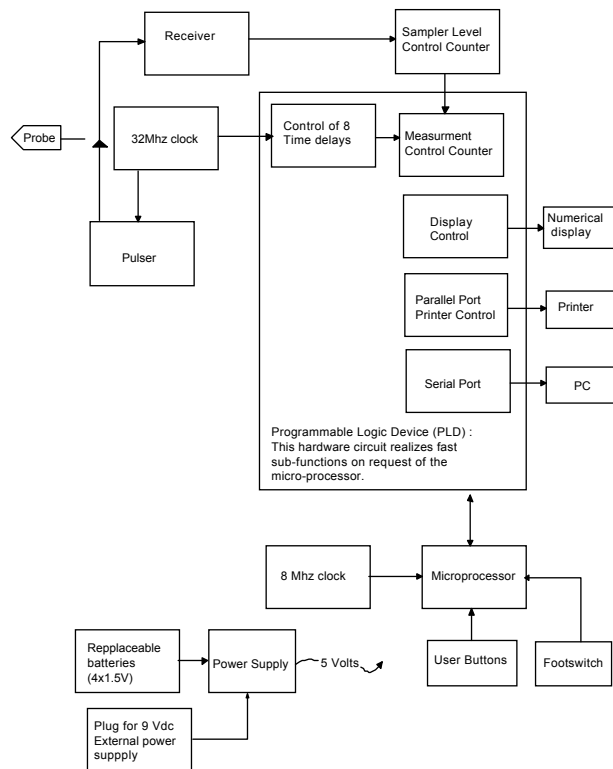
SN 002

5 Type BF symbol :

Size : 13 x 13 mm



2- OVERALL BLOCK DIAGRAM





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3- DIAGRAM

3-1 SCHEMATIC

**REFER TO THE TREATMENT CARD
REF : 3 101 0109 Rev B**



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3- DIAGRAM

3-2 LAYOUT

**REFER TO THE TREATMENT CARD
REF : 4 152 0109 Rev A.**

4- INSTRUMENT BOX

4-1 MATERIAL

The box is in ABS plastic in accordance with the UL94V0 Standard.

4-2 DIMENSIONS AND WEIGHT

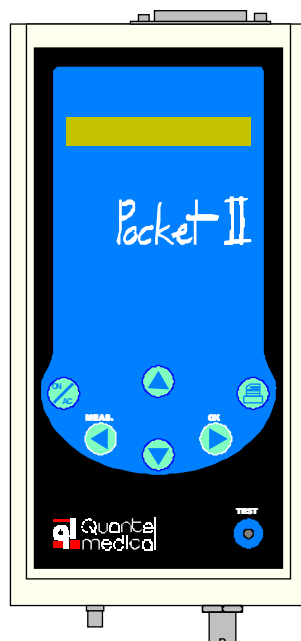
Width : 100 mm

Height : 45 mm

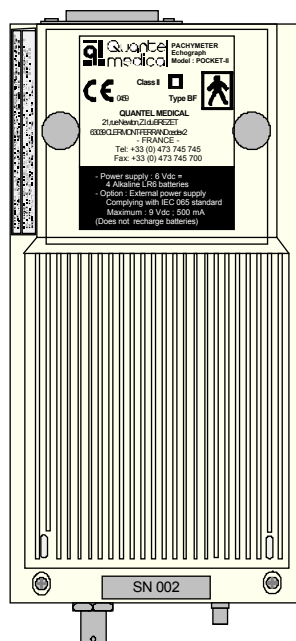
Depth : 200 mm

Weight : 460 g

Front panel



Rear Panel





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5- ACCESSORIES & SPARE PARTS

IDENTIFICATION	CODE
ACCESSORIES	
Pachymetry probe reference P1	XE AAA PRB PK
User Manual	XE PCK2 ME
Technical Manual	XE PCK2 MT AN
OPTION	
Footswitch	XE AAA PED
SPARE PARTS	
Pocket-II plastic box	XE POC BOIT2
Pocket-II front panel + test block	XE POC LEXAN2
Pocket-II CPU board	XE POC CPU2
Pocket-II LCD screen and Board	XE POC LCD2
Pocket-II transport case	XE POC VALISE2

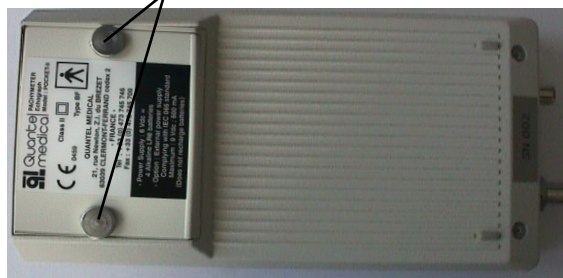
6- MAINTENANCE

6-1 HOW TO OPEN THE POCKET BOX

The POCKET-II plastic box is composed of 2 parts.

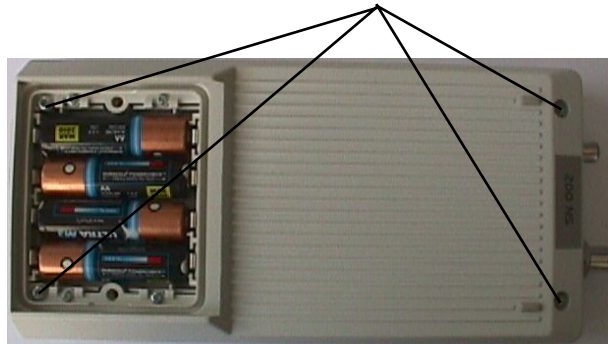
- 1) Unscrew the 2 large headed metal screws on the underside of the POCKET-II and remove the back panel of the battery compartment

2 screws



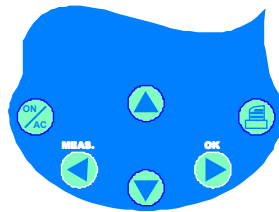
- 2) Unscrew the 4 screws and remove the inferior part of the POCKET-II plastic box.

4 screws



6- MAINTENANCE

6-2 PACHYMETRY PROBE CALIBRATION



NOTE :

The parameters in the screens below are given for examples. You can find parameters slightly different.

Firstly, ensure that the probe is connected and the tip is clean and dry.

- From this screen: Pres. MEAS M1

- Press  3 seconds.

- The configuration screen appears:

Freeze MEDIUM

- Press simultaneously these two keys 3s:



- Speed selection appears on the screen:

Speed 1620 m/s

- Press 

- This message appears on the screen:

CalUnp 1878 2554

- Press simultaneously these two keys :


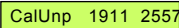

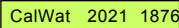


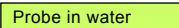


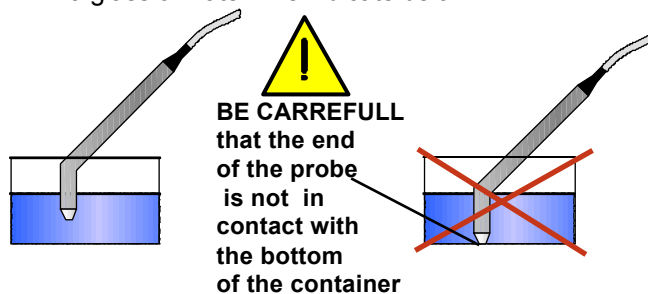
- This message appears on the screen :


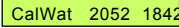

Unplug the probe

- Unplug the probe.

6- MAINTENANCE

- Press 
- CalUnp with the new parameters is displayed :

- Press 
- This message appears on the screen:

- Press simultaneously these keys :  
- This message appears on the screen:

- Plug the probe on the pocket-II and put the probe in a glass of water like indicate below

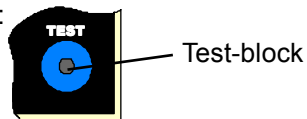


- Press 
- CalWat with the new parameters is displayed:

- The calibration is done.
- In order to save this calibration press  3 s.

6- MAINTENANCE

6-3 CHECKING PROCEDURE

The measurement acquisition may be checked with the test-block :



1- Dampen the probe extremity with water and place it perpendicular on the Pocket-II test block like indicated below.



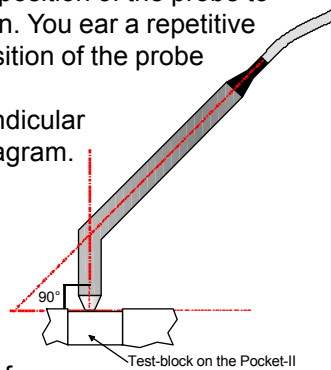
Do not put water on the test block



2- Press "MEAS".

The acquisition should be fast : if necessary, change slightly the position of the probe to obtain an acquisition. You hear a repetitive sound while the position of the probe is incorrect.

You must be perpendicular like the opposite diagram.



Note : Make a series of measurements to have a representative Standard Deviation (SD).

3- Results of the test :

if the procedure has been succesfull and the position of the probe is correct, the readings of the series of measurements must be repetitive to $\pm 20 \mu\text{m}$.

As some microns represent a very thin thickness, some parameters influencing the test-block itself :

- the variation of the thickness with the ambient temperature.
- possible dust.
- Incorrect positioning.

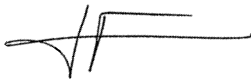

If you suspect any problem, please call for Service.



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VALIDATION SHEET

Software Version	1.04
Publishing Date	November 2003
Revision Date	November 2003
Written by F. LOYAL	
Checked by C. CHABRIER	
Validated by P. QUERO	